

I claim:

1. A method of treating a condition in a patient requiring removal or destruction of cells comprising administering to a mammal in need a therapeutically effective amount of a neural thread protein (NTP).

2. The method according to claim 1, wherein said NTP is administered by a method selected from the group consisting of orally, subcutaneously, intradermally, intravenously, intramuscularly, intrathecally, intraperitoneally, intracerebrally (intraparenchymally), intracerebroventricularly, intraocularly, intraarterially, intranasally, intratumorally, intralesionally, topically, and transdermally.

3. The method of claim 1, wherein said treatment is administered to the patient before, during, or after treatment of the patient selected from the group of treatments consisting of surgical excision, transplantation, grafting, chemotherapy, immunotherapy, vaccination, thermal, microwave or electrical ablation, cryotherapy, laser therapy, phototherapy, gene therapy, and radiation.

4. The method of claim 1, where the condition is selected from the group consisting of a benign or malignant tumor of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

5. The method of claim 1, where the condition is selected from the group consisting of a hyperplasia, hypertrophy, or overgrowth of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

6. The method of claim 5, wherein the condition is tonsillar hypertrophy.

7. The method of claim 5, wherein the condition is prostatic hyperplasia.

8. The method of claim 1, where the condition is selected from the group consisting of a virally, bacterially, or parasitically altered tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

9. The method of claim 1, where the condition is selected from the group consisting of a malformation of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

10. The method of claim 1, wherein the condition is a cosmetic modification to a tissue.

11. The method of claim 10, wherein the tissue is selected from the group consisting of skin, eye, ear, nose, throat, mouth, muscle, connective, adipose, hair, and breast.

12. The method of claim 1, wherein the condition is a vascular disease.

13. The method of claim 1, wherein the condition is hemorrhoids.

14. The method of claim 1, wherein the condition is varicose veins.

15. The method of claim 12, wherein the vascular disease is atherosclerosis or arteriosclerosis.

16. The method of claim 1, wherein the condition is selected from the group consisting of an inflammatory disease, autoimmune disease, metabolic disease, hereditary/genetic disease, traumatic disease or physical injury, nutritional deficiency disease, infectious disease, amyloid disease, fibrosis disease, storage disease, congenital malformation, enzyme deficiency disease, poisoning, intoxication, environmental disease, radiation disease, endocrine disease, degenerative disease, and mechanical disease.

17. The method of claim 1, wherein the NTP is conjugated, linked, or bound to a molecule selected from the group consisting of an antibody, antibody fragment, and an antibody-like binding molecule, wherein said molecule has a higher affinity for binding to a tumor or other target than binding to other cells.

18. The method of claim 1, wherein the NTP is conjugated or linked or bound to a protein or other molecule, wherein the composition is cleaved at or near the site(s) of the tumor or other unwanted cells by a tumor- or site-specific enzyme or protease or by an antibody conjugate that targets tumor or other unwanted cells and so releases the NTP.

19. The method of claim 1, wherein the NTP is conjugated or linked or bound to a protein or other molecule, wherein the composition releases the NTP upon exposure of the tissue to be treated to light (as in laser therapies or other photo-dynamic or photo-activated therapy), other forms of electro-magnetic radiation such as infra-red radiation, ultraviolet radiation, x-ray or gamma ray radiation, localized heat, alpha or beta radiation, ultrasonic emissions, or other sources of localized energy.

20. The method of claim 1, wherein the NTP is employed in combination with other pharmaceutical compositions, such as cytokines, growth factors, antibiotics, apoptotic-inducing agents, anti-inflammatories, and/or chemotherapeutic agents as is appropriate for the indication being treated.

21. The method of claim 1, where the NTP is employed in combination with dendrimers, fullerenes and other synthetic molecules, polymers and macromolecules wherein the NTP is conjugated with, attached to or enclosed in the molecule, polymer or macromolecule, either by itself or in conjunction with a molecule with a higher affinity for binding to a tumor or other target than binding to other cells

22. The method of claim 1, wherein the NTP is part of a single new cloned recombinant molecule consisting of NTP and a molecule selected from the group consisting of an antibody, antibody fragment, and antibody-like binding molecule, wherein said molecule has a higher affinity for binding to a tumor or other target than binding to other cells.

23. The method of claim 1, wherein said NTP is chosen from the group consisting of AD7c-NTP (SEQ ID NO. 1), the proteins identified by SEQ ID NOs. 2 to 9, neural pancreatic thread protein, pancreatic thread protein and any fragments, homologs, variants, derivatives, peptide mimetics, reverse-D peptides, and enantiomers thereof.

24. The method according to claim23, wherein said NTP is administered by a method selected from the group consisting of orally, subcutaneously, intradermally, intravenously, intramuscularly, intrathecally, intraperitoneally, intracerebrally (intraparenchymally), intracerebroventricularly, intraocularly, intraarterially, intranasally, intratumorally, intralesionally, topically, and transdermally.

25. The method of claim23, wherein said treatment is administered to the patient before, during, or after treatment of the patient selected from the group of treatments consisting of surgical excision, transplantation, grafting, chemotherapy, immunotherapy, vaccination, thermal or electrical ablation, cryotherapy, laser therapy, phototherapy, gene therapy, and radiation.

26. The method of claim23, where the condition is a benign or malignant tumor of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

27. The method of claim23, where the condition is selected from the group consisting of a hyperplasia, hypertrophy, or overgrowth of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon,

intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

28. The method of claim 27, wherein the condition is tonsillar hypertrophy.

29. The method of claim 27, wherein the condition is prostatic hyperplasia or hemorrhoids.

30. The method of claim 23, where the condition is selected from the group consisting of a virally, bacterially, or parasitically altered tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

31. The method of claim 23, where the condition is selected from the group consisting of a malformation of a tissue selected from the group consisting of lung, breast, stomach, pancreas, prostate, bladder, bone, ovary, skin, kidney, sinus, colon, intestine, stomach, rectum, esophagus, heart, spleen, salivary gland, blood, brain and its coverings, spinal cord and its coverings, muscle, connective tissue, adrenal, parathyroid, thyroid, uterus, testis, pituitary, reproductive organs, liver, gall bladder, eye, ear, nose, throat, tonsils, mouth, and lymph nodes and lymphoid system.

32. The method of claim 23, wherein the condition is a cosmetic modification to a tissue.

33. The method of claim 32, wherein the tissue is selected from the group consisting of skin, eye, ear, nose, throat, mouth, muscle, connective, adipose, hair, and breast.

34. The method of claim 23, wherein the condition is a vascular disease.

35. The method of claim 23, wherein the condition is hemorrhoids.

36. The method of claim 23, wherein the condition is varicose veins.

37. The method of claim 30, wherein the vascular disease is atherosclerosis or arteriosclerosis.

38. The method of claim 23, wherein the condition is selected from the group consisting of an inflammatory disease, autoimmune disease, metabolic disease, hereditary/genetic disease, traumatic disease or physical injury, nutritional deficiency disease, infectious disease, amyloid disease, fibrosis disease, storage disease, congenital malformation, enzyme deficiency disease, poisoning, intoxication, environmental disease, radiation disease, endocrine disease, degenerative disease, and mechanical disease.

39. The method of claim 23, wherein the said NTP is conjugated, linked, or bound to a molecule selected from the group consisting of an antibody, antibody fragment, and an antibody-like binding molecule, wherein said molecule has a higher affinity for binding to a tumor or other target than binding to other cells.

40. The method of claim 23, wherein the said NTP is part of a single new cloned recombinant molecule consisting of NTP and a molecule selected from the group consisting of an antibody, antibody fragment, and antibody-like binding molecule, wherein said molecule has a higher affinity for binding to a tumor or other target than binding to other cells.

41. The method of claim 23, wherein the NTP is conjugated or linked or bound to a protein or other molecule, wherein the composition is cleaved at or near the site(s) of the tumor or other unwanted cells by a tumor- or site-specific enzyme or protease or by an antibody conjugate that targets tumor or other unwanted cells and so releases the NTP.

42. The method of claim 23, wherein the NTP is conjugated or linked or bound to a protein or other molecule, wherein the composition releases the NTP upon exposure of the tissue to be treated to light (as in laser therapies or other photo-dynamic or photo-activated therapy), other forms of electro-magnetic radiation such as infra-red radiation, ultraviolet

radiation, x-ray or gamma ray radiation, localized heat, alpha or beta radiation, ultrasonic emissions, or other sources of localized energy.

43. The method of claim 23, wherein the NTP is employed in combination with other pharmaceutical compositions, such as cytokines, growth factors, antibiotics, apoptotic-inducing agents, anti-inflammatories, and/or chemotherapeutic agents as is appropriate for the indication being treated.

44. The method of claim 23, where the NTP is employed in combination with dendrimers, fullerenes and other synthetic molecules, polymers and macromolecules wherein the NTP is conjugated with, attached to or enclosed in the molecule, polymer or macromolecule, either by itself or in conjunction with a molecule with a higher affinity for binding to a tumor or other target than binding to other cells

45. The method of claim 23, wherein the NTP is part of a single new cloned recombinant molecule consisting of NTP and a molecule selected from the group consisting of an antibody, antibody fragment, and antibody-like binding molecule, wherein said molecule has a higher affinity for binding to a tumor or other target than binding to other cells.

46. A method of treating a condition in a patient requiring removal or destruction of cells comprising administering to a tumor or other target cell a therapeutically effective amount of an NTP gene, wherein the expression of the NTP gene is induced resulting in expression of the NTP protein.